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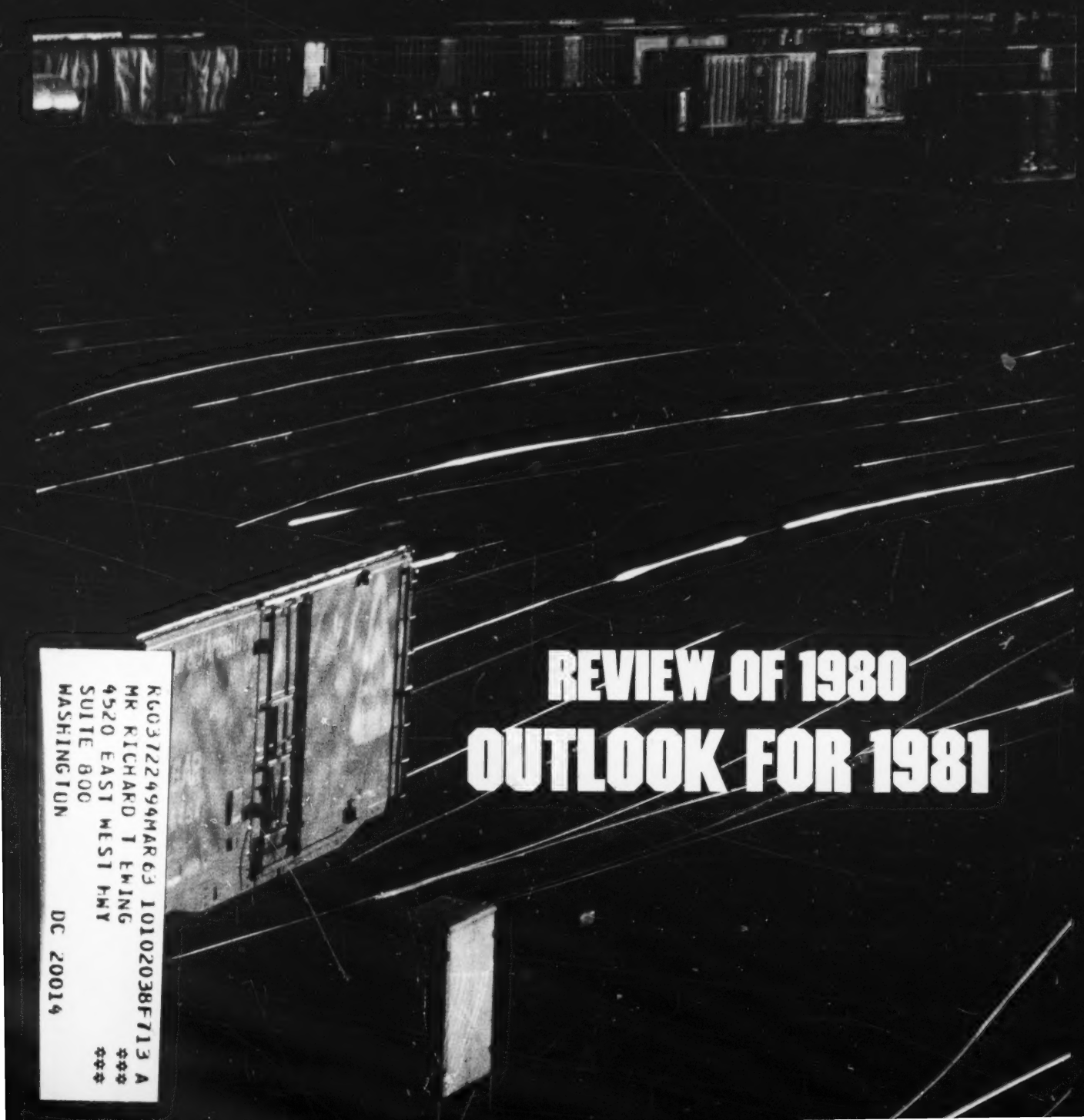
SPECIAL REPORT

January 26, 1981

RAILWAY AGE



REVIEW OF 1980
OUTLOOK FOR 1981

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Inside

LUTHER S. MILLER

VIEWS AND REVIEWS

This is Review & Outlook time for the editors of *Railway Age*, and as always, we approach the reviewing stand with considerably more confidence than we don our forecasting caps.

Last year the railroads and their suppliers fared uncommonly well, considering that for much of the year the economy was in recession. While total carloadings dropped around 5.4%, ton-miles were actually up slightly due to the brisk business that was experienced in coal and grain traffic, both heavy-loading, long-haul commodities. Due to timely rate increases and effective cost-control measures, revenues rose faster than expenses.

For suppliers, it was one of the best years in recent history, with close to 90,000 new freight cars and around 1,700 new and rebuilt locomotives delivered.

But the best news of 1980 was churned out not by the computers, but by Congress, which through passage of the Staggers Rail Act gave the railroads much of the regulatory freedom they have been clamoring for since memory of man goeth back not to the contrary.

The new year is, of course, another story, and it is one that we are not prepared to write quite yet, though it may be said that the railroads are better prepared to ride out stormy weather than they have been for many years. For suppliers, 1981 won't be the best year of the last 10 but it won't be the worst either. With order backlogs down, they will produce only slightly more than half as many new cars and locomotives as they produced in 1980; but half of last year's production levels will be better than those of some years in the not distant past. Nearly all suppliers see an upturn in new orders starting in the third or fourth quarters.

Our series of outlook articles begins on p. 22; our review starts on p. 57.

CHINA, ANYONE?

Railway Age, which together with its companion publications, *Railway Track & Structures* and *International Railway Journal*, will publish a Chinese language edition in April, is exploring further ventures in cooperation with the Chinese Railway Ministry. One proposal that has been advanced is a technical/professional tour of major sectors of China's 30,000-mile rail network. It would probably be a 15-day tour, starting from Hong Kong and ending in Beijing (Peking). Included would be a journey, by private first class train, over the recently-completed, 652-mile Chengdu-Kunming line, which penetrates the "forbidden zone" in Sichuan and Yunnan provinces. There would be visits to shops (including one where modern steam locomotives are still under construction) and principal yards. All travel within China would be by train, with the itinerary chosen to emphasize points of interest to all railway disciplines.

If there is sufficient interest in such a tour, it would probably be scheduled for mid-October 1981, when weather conditions are most favorable throughout the People's Republic. Interested persons should get in touch with *Railway Age* Publisher Robert G. Lewis in our New York office.

SAFETY GLASS: ADD SIERRACIN

Due to a printer's error, Serracin-TransTech was inadvertently omitted from a list of manufacturers supplying safety glazing materials to railroads (*RA*, Dec. 29, 1980, p. 56). Sierracin offers 11 different glazing products, featuring outside layers of strengthened glaze with interlayers of varying material and thickness for specific applications.

RAILWAY AGE

January 26, 1981

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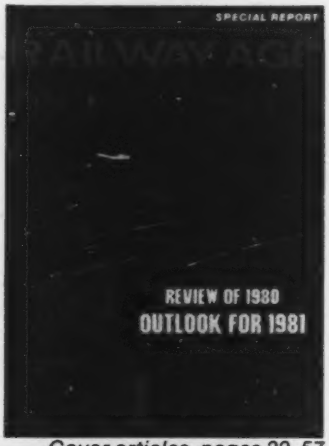

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Cover: Conrail's Allentown, Pa., yard, photographed at sunset by Roy H. Blanchard.

M/W: A change of heart in the executive suite?

By MERWIN H. DICK
Consulting Editor

No one can be sure at this point but a fundamental change may have taken place in the attitude of some railroad managements toward maintenance of way. A chief engineer put his finger on the change when he said m/w expenditures on his road were being geared these days more closely to the needs of the property.

Another indication can be found in answers given by a group of chief engineers to the question: Are the materials and labor going into your tracks today adequate to maintain them at an acceptable level considering the traffic load being carried? Without hesitation they all answered "yes." The affirmative answer is all the more significant since the question and the answers came near the close of a recession year.

Most chief engineers are not about to buy the thought, however, that there has been a change in management thinking, even following a recession year during which m/w programs, measured by rail and tie renewals and track surfacing, were maintained at relatively high levels—nor even as they look forward to another recession year during which m/w programs as a whole will be moving even higher, according to present plans.

If chief engineers remain unconvinced, who can blame them for harboring a degree of skepticism? Have they not had many disappointments in the past when they watched as management cut to shreds what they considered necessary programs of track maintenance? Perhaps, following several successive years during which they are allowed by management to proceed with adequate programs in the face of substantial declines in business, they might begin to believe that there has indeed been a change of heart in the executive suite.

● **Reasons for pausing.** Certainly managements have good reason to pause before yielding to the temptation to slash m/w appropriations at the first sign of a business decline. The effects of two decades of undermaintenance during the '50s and '60s must still be fresh in mind. The jump in costly derailments is one. Imposition of the FRA Track Safety Standards is another. The ensuing enormous cost of rehabilitating rundown trackage is a third.

Was it recollections of this scenario that caused some managements to resist the urge to cut m/w expenditures during the recession year of 1980 and to approve m/w budgets for 1981 which are actually higher than the year before?

Not necessarily. Several factors were at work suggesting the time for m/w cuts had not yet come even though the economy was in recession. There were two such factors:

—Railroad business was not hurting nearly as badly as some other sectors of the economy, such as housing, steel and automobiles. A major reason is that loss of traffic in these and other sectors was being offset somewhat by strength in loadings of coal and grain.

—The types of traffic that are holding up best are mostly carried in 100-ton cars operated in unit trains, which exert more wear and tear on the track, especially rail, than conventional types of traffic, thus presenting a sound argument for holding m/w programs at a relatively high level.

So it could have been these and possibly other factors that are causing chief engineers to urge greater, rather than less, m/w spending during a recession period, and managements to accept their line of reasoning.

● **Trend: Steady to upward.** Thus it is that both rail and tie renewals were being maintained in 1980 at about the same high levels that prevailed in the mid-'70s, with tie renewals even registering a slight gain over 1979, although rail insertions showed a moderate loss. Even more significant, both rail and tie renewals are expected to show solid gains in 1981. So is the mileage of track surfaced. Ever since *Railway Age* started compiling figures a decade ago on the mileage of track surfaced this figure has gained in every year and is expected to show another increase in 1981.

Projections of m/w work for both 1980 and 1981 are based on figures furnished by nearly all the Class I railroads.

The Class I railroads as a whole, it is estimated, laid a total of 875,000 net tons of new rail in replacement in 1980. This was a reduction of 136,000 tons, or 13.4%, compared with 1979. Even so it was the largest amount of new replacement rail to be laid in any year in the last decade with the exception of 1977 and 1979, the 1,011,000 tons laid in 1979 being the largest.

Tie renewals last year were in a counter trend to rail insertions. It is estimated that Class I railroads as a whole inserted 25.7 million new ties in replacement last year. This was an increase of 651,226 ties, or 2.6%, compared with 1979.

The *Railway Age* projection is that these roads this year will lay 955,000 tons of new rail in renewals. This would be a gain of 80,000 tons, or 9.1%, over last year.

Crosstie renewals this year are projected at about 28 million ties, an increase of 2.3 million, or 8.95% over 1980.

● **Figuring track surfacing.** In calculating these figures on tie and rail renewals use is made of official figures for earlier years compiled and published by the AAR. With track surfacing, however, this procedure cannot be followed: neither the AAR nor any other group compiles figures on the total amount of track surfacing done by Class I roads. However, an indication of the trend of track surfacing is provided by figures on this activity furnished by the railroads that submit figures on rail and tie renewals.

Twenty-four roads submitted figures for this article. The roads giving figures on track surfacing said they surfaced 39,425 miles of track last year, which compares with 37,969 miles surfaced by these roads in 1979. They plan to surface a total of 41,178 miles of track this year.

Why has track surfacing been going up continuously from year to year, even at times when other types of work have declined?

AUTOMATED track-lining machine was introduced in 1980 by Plasser American Corp. Manufacturer says machine has capability of lining track at rate of 2 miles per hour.

The availability of high-speed automated production tamper/liners almost certainly figures importantly in the answer. These machines enable one operator to surface and line 2,000 feet of track or more per hour. When this machine is operated in tandem with a second "slave" machine tamping alternate ties, production can be increased about 75%. Thus, compared with the labor-intensive hand methods formerly used, surfacing has become a quick and economical way to improve the riding qualities of track.

Since the manufacturers keep making improvements in their tampers aimed at getting greater efficiency and productivity, while improving the quality and durability of the work done, there is reason to believe that the railroads will continue to rely increasingly on these machines to keep their tracks in good line and surface.

● **Some negative factors.** It is interesting to note that m/w activity for the Class I roads as a whole is presently gaining even though there are some factors tending to hold it down. Among these are activities on roads that have been depending in some degree on government funding of one kind or another.

Conrail's 10-year track rehabilitation program, started in 1976 with government funding, initially had a stimulating effect on the aggregate demand for new rails and ties and other materials and m/w machinery. But disappointing bottom-line figures for Conrail caused it to depart from the rehab program beginning in 1979, with a negative impact on total m/w activity and the overall demand for materials and m/w machinery.

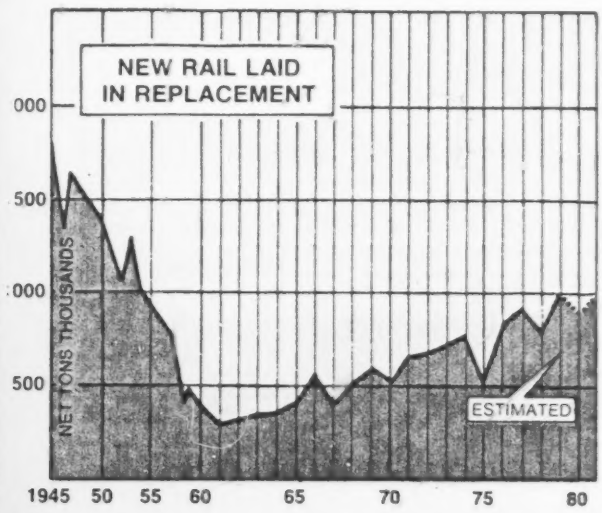
This effect could continue in 1981, primarily because the scope of Conrail's program will depend on action yet to be taken by Congress on a request for additional funding. "We don't know yet what we will do in 1981," said a Conrail spokesman.

Another factor having a negative impact on total m/w outlays is reduced expenditures of 4-R funds for track rehabilitation. Of the $1.6 billion provided in the 4-R Act for this and other purposes all but $63.2 million has been earmarked for projects on various roads, although it is understood that some of these roads still have not spent all the funds allotted to them. What is important is that the peak of 4-R funding has been passed and all that can be expected now is a decline to zero.

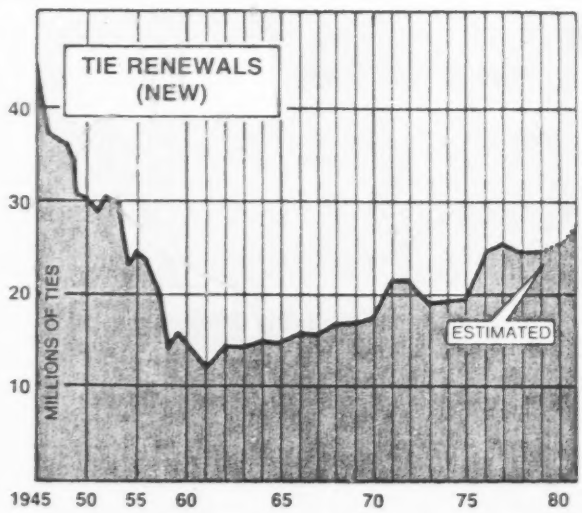
The five-year Northeast Corridor Improvement Project, undertaken in 1976 with $1.75 billion provided by Congress, has had rough going due to inflation and other factors. Originally scheduled to be finished this year, the project has now been extended to September 1985 and total funding has been increased to $2.5 billion.

One effect of this stretch-out is to reduce the consumption of materials being used annually in the work. An indication of this reduction is given by the fact that the amount of new rail being laid in 1981 will be 68 track-miles, only slightly more than one-half of the 124.8 track-miles laid in 1980.

● **Sign of vitality.** The fact that rail and



RAIL RENEWALS on Class 1 railroads from 1945 to date. Decrease in 1980 will be more than overcome in 1981, according to *Railway Age* survey.



TIE RENEWALS, like rail, have shown a substantial recovery from the bad years of the 'fifties and 'sixties. Tie insertions will hit new 25-year high this year.

Today's goal: Build greater durability into the track structure so that renewal cycles may be stretched out.

tie renewals and track surfacing are expected to move up this year in spite of the restraining influences mentioned served to underscore the vitality of m/w programs not dependent on government funding. Another indication of this vitality is that the increases are occurring in spite of large mileages being taken out of service on the Rock Island and Milwaukee Road.

The increases in overall m/w programs planned for 1981 do not mean, of course, that all railroads are participating in the uptrend. Some inquiries to top engineers reveal that railroads expecting to step up their m/w programs frequently have different reasons for doing so.

This point is illustrated by the motivations behind planned increases in m/w programs on three large railroads, all of which, incidentally, carry large amounts of coal traffic. No two of these three roads had the same reason for boosting their 1981 programs.

One chief engineer cited substantial rehabilitation work needed to prepare a route for carrying heavy traffic resulting from a pending merger.

On another road, m/w programs for 1981 were being boosted across the board as part of a program to upgrade the tracks on a systemwide basis. The chief engineer was reluctant to say that the purpose of the enlarged programs was to overcome deferred maintenance, but it was obvious that was the case.

The chief engineer of a third system explained that the heavier m/w programs planned for this year were basically due to cutbacks put into effect in 1980. In other words, the m/w forces were "picking up" in 1981 needed work that was not done last year.

All of these examples possess a common characteristic, an apparent feeling of confidence among their managements that business prospects for 1981 justify the increased expenditures. One might even go a step further with the observation that this spirit of confidence—call it cautious optimism, if you will—is not hard to find anywhere in the railroad industry.

● **Money not the only factor.** While it may be assumed that money is the most important single factor in the battle to achieve adequate track maintenance, there are other elements in the equation.

One of these is machinery. The m/w forces of practically all big railroads are now highly mechanized. In the process, the railroads have made great savings in labor costs. In fact, so great have been these savings that the question may be raised: Since the m/w labor force has been reduced so much, where, or how, can further large savings be made?

Of course, efforts to get improved results from mechanization are continuing. The manufacturers continue to make significant improvements in their machines. But no entirely new types of machines were introduced in 1980 and, so far as is known, none is in the works for 1981.

Certainly there are no machines on the horizon that promise labor savings of the magnitude achieved during the years when mechanization was making inroads into a labor force that was still pretty much confined to hand tools. The fact is that mechanization has skimmed the cream off of potential labor savings.

But m/w officers are watching uneasily as the wage rates of unionized m/w employees continue to go up year after year even as they did during the post-war years. At that time newly developed labor-saving machines could be thrown into the breach to keep labor costs from getting entirely out of hand.

● **What happens now?** The machines saved the day. But what happens now? What can be done to keep continually increasing wage rates from forcing unit costs of maintenance work to levels so high that the amount of work done will have to be reduced in order to keep expenses within the confines of the amount of money made available to do the work?

There is an answer, and m/w departments are working hard at it. But the potential savings are limited, and anyway there is a counteracting factor in the situation that threatens largely to nullify their efforts. The answer is to build greater strength and durability into the track structure to the end that renewal cycles of its components—rails and ties mainly—can be stretched out, while less work will be required to keep it in good line and surface, thereby keeping labor costs down.

Track engineers have, of course, been working to strengthen the track structure for many years. The trend to heavier rails is an example of what they have been doing. More recently the emphasis has been on ways to lengthen the life of rails, especially on curves in heavy-traffic territory, through the use of so-called premium rails—those that have been hardened either through heat treatment or the use of alloys such as silicon, chromium, molybdenum and vanadium.

● **Use of premium rails.** These efforts are now being accelerated. Several large roads report that they have recently obtained quantities of alloy-steel or heat-hardened rail from Germany and Japan, some of which is being used on an experimental basis. So far results are reported to be satisfactory.

CF&I says its CROMORAIL is now in production and that its acceptance by the railroads has been "surprisingly good." As the result of a change in chemistry this chrome/moly rail reportedly can be butt-welded in about the same length of time required for carbon-steel rail. Also, as a result of improvements in the company's rail mill at Pueblo, Colo., rail can be rolled in lengths considerably longer than the standard 39 feet.

Other measures currently being used to improve track performance on curves include the use of larger than standard tie plates and various types of clip-type fastenings, although most roads are clinging to the cut spike as the preferred type of rail fastening, on curves as well as tangents. To facilitate rail changeout and transportation on curves, Union Pacific has adopted the use of 78-foot rails in lieu of cwr on curves of 2 degrees and over.

● **What about concrete ties?** Still under consideration for increasing the durability of the track structure is the concrete tie. A few roads, including Amtrak in the Northeast Corridor and the Florida East Coast, are continuing to use concrete ties on a regular basis. Other roads have test installations under observation. As yet no other major road has moved in the direction of using them regularly for renewal purposes, although Santa Fe last year installed 29,000 concrete ties in constructing a new branch line.

It should be noted, too, that CN Rail is continuing its policy of installing concrete ties out of face in certain territories of heavy curvature and traffic. Since this program was started several years ago more than a million concrete ties have been installed.

● **Counteracting factor.** As indicated above, there is an element in the situation tending to counteract efforts to reduce maintenance costs by strengthening the track structure. That element is the accelerated wear and tear imposed on the track structure by increased use of 100-ton cars, many of them operating in unit trains. The fact is that protection of the track from the heavier loads is doubtless the principal reason for the efforts to strengthen the track.

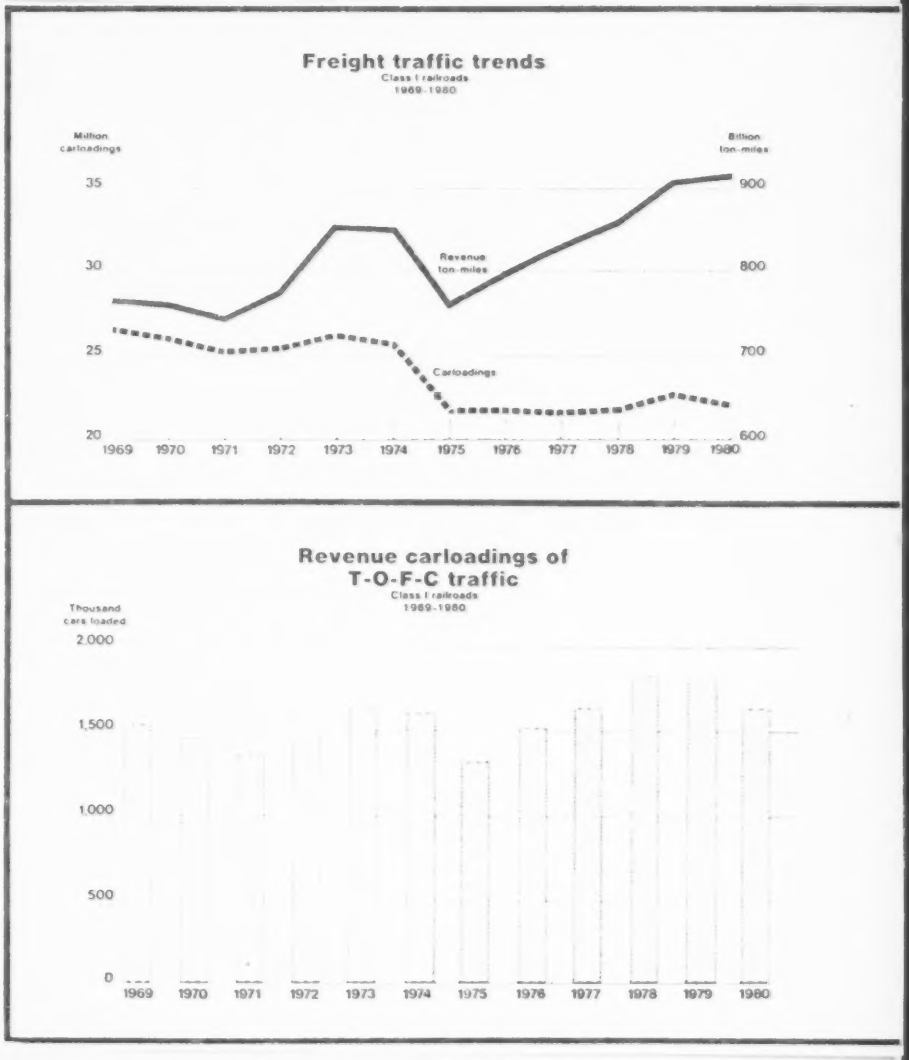
So it appears that track engineers in their efforts to reduce maintenance costs via this route are not much farther ahead than they were in the beginning. True, they are getting some increased life from the premium rail being used, and perhaps savings may be attributed to other steps being taken such as geotextiles in soft subgrades; but it is doubtful if these are sufficient to counter more than a small part of increased labor costs. ■

Deregulation helps ease the pains of recession

Two main themes ran through Chapter 1980 of the 20th Century History of Railroading: One had to do with deregulation, the other with recession, each had to do with the industry's ability to cope—and cope the railroads did, in better fashion than might have been expected.

First, deregulation. In theory, an easing in regulation was supposed to have begun a few years ago with passage of the Railroad Revitalization and Regulatory Reform Act of 1976, but the Interstate Commerce Commission at that time had its own interpretation of the intent of Congress and not much "reform" resulted, not much at least that was beneficial. Then the Carter Administration made transportation deregulation a major goal and Congress moved, first on airline deregulation, then on motor-carrier deregulation, and finally on railroad deregulation—with passage of the Staggers Rail Act of 1980, which the President finally got to sign in October. In the meantime, a somewhat revamped ICC, knowing an ominous throat-clearing when it heard one, was moving on its own to ease up on railroad regulation. One result of this was that railroads were able to weather the recession, as the AAR put it, "without a serious setback."

This downturn, like the one that plagued a Republican Administration in 1975, was recession-plus-inflation, something most economists had dismissed as an impossibility before 1975. It struck hard in key areas important to railroads, including the automobile and housing industries. Loadings of motor vehicles and parts in 1980 were off by about 25%, while volume of lumber and wood products fell by more than 20%. And yet, yearend found the railroad industry, overall, with financial results slightly better than those recorded the year before. What happened? What happened was, first, that grain and coal loadings showed substantial increases, increases that might not have been predicted as 1980 began (especially with the impact of the Russian grain embargo to be considered). What happened was, second, that the Commission did not merely sit on rate-increase proposals, granting rate hikes which, over the year, added up to 10.3%. This was less than the percentage increase in the Consumer Price Index, for example, it was less than the increase in the indices for railroad equipment and materials and it was far less than the increase (49%) in fuel costs. But it was enough, as it turned out, to prop the industry up and enable it to battle recession to a virtual standoff—though, as is usually the case, some roads came through the fight less scarred than others.



Among the other highlights of 1980:

—Despite recession and the high cost of money, railroads and other investors pumped an estimated $6.2 billion in capital expenditures into the industry. Capacity of the freight-car fleet continued its steady climb, and additions to the fleet outnumbered retirements as they had in 1979. The market was hardly stable in terms of new orders, however, and backlogs declined as the year progressed, leaving carbuilders with an uncertain outlook so far as 1981 production was concerned.

—Uncertain, too, was the outlook in the area of management/labor relations. For one thing, the Railroad Retirement system was facing financial difficulties again, and carriers and unions ended '80 without any agreement on how these problems should be solved. At the same

Carloadings by commodities 1980 vs. 1979

Commodity	1980	1979		Incr/Decr. 1980 vs. 1979 Cars	Percent
Grain	1,573,313	1,429,244	I	144,069	10.1
Other farm products	235,845	222,821	I	13,024	5.8
Metallic ores	1,479,857	1,765,875	D	286,018	16.2
Coal	5,706,434	5,255,980	I	450,454	8.6
Crushed stone, gravel and sand	716,491	854,110	D	137,619	16.1
Nonmetallic minerals	770,243	783,685	D	13,442	1.7
Grain mill products	878,704	918,556	D	39,852	4.3
Food and kindred products	925,163	954,490	D	29,327	3.1
Primary forest products	1,002,033	1,055,665	D	53,632	5.1
Lumber and wood products except furniture	469,447	596,817	D	127,370	21.3
Pulp, paper and allied products	1,060,487	1,097,932	D	37,445	3.4
Chemicals and allied products	1,411,160	1,488,616	D	77,456	5.2
Petroleum products	296,752	335,997	D	39,245	11.7
Stone, clay and glass products	792,402	944,328	D	151,926	16.1
Coke	276,329	359,824	D	83,495	23.2
Metals and products	820,263	984,022	D	163,759	16.6
Motor vehicles and equipment	853,850	1,123,104	D	269,254	24.0
Waste and scrap materials	632,733	713,749	D	81,016	11.4
Forwarder and shipper association traffic	555,041	642,508	D	87,467	13.6
All other carloads	2,129,816	2,343,575	D	213,759	9.1
LCL traffic	11,685	20,837	D	9,152	43.9
Total cars loaded	**22,598,048**	**23,891,735**	**D**	**1,293,687**	**5.4**

Methods of shipping motor vehicles from factories 1969-1980

Year	Vehicles shipped	Highway %	Railroad %
1969	10,147,000	48.2	51.7
1970	8,239,000	45.3	54.7
1971	10,638,000	47.5	52.5
1972	11,270,000	47.8	52.2
1973	12,637,000	48.0	52.0
1974	10,058,000	44.8	55.2
1975	8,985,000	46.4	53.6
1976	11,477,000	48.5	51.5
1977	12,639,000	49.3	50.7
1978	12,871,000	49.4	50.6
1979	11,456,000	50.1	49.9
1980 (9 mos.)	5,849,959	52.0	48.0

Source: Motor Vehicle Manufacturers Association of the United States, except column 2 and 3 for 9 mos. 1980 estimated by AAR.

time, the organizations were spending the last weeks of 1980 getting ready for the wage/benefit bargaining that would begin in '81. All indications were that the new demands would not be modest ones, with labor looking not only for substantial increases in basic wage rates but also for full protection against cost-of-living increases and even for what amounted to retroactive protection against the inflation of the past several years.

—Back at the ICC, the prompt action noted on rate cases was paralleled by prompt action on matters related to railroad consolidation. This added up to a busy year for map-makers, who had to take into account two major mergers and two major acquisitions which took place in 1980, even as they looked ahead to the changes that might be coming as a result of two additional mergers proposed during the year. Meanwhile, other changes in the map were being made as a result of the Rock Island and Milwaukee Road bankruptcies, with Milwaukee taking the more active role in sale of lines.

—Signals sent out by the November election hinted that there would be restrictive aspects displayed for the two major railroads receiving government assistance, Amtrak and Conrail. Both continued to lose heavily, and a late-year report on Conrail indicated a need for long-term continuing government aid even if substantial cutbacks were made in operations and costs.

—In the area of technological development in railroading, 1980 may go down as one of the most active years ever. Suppliers seemed to be sending out their own signals, and they were positive, reflecting a long-range optimism about rail-industry growth and about the industry's continuing need to upgrade equipment and plant. Especially noteworthy were locomotive builders' efforts to boost fuel-efficiency and improve reliability, and a widespread interest in the development of new (and sometimes exotic) equipment for use in intermodal operations. Noteworthy, too, was a renewal of interest in railroad electrification, though the financial problems associated with it were not ones that looked easy or quick of solution.

In sum, it could be said that railroads ended the decade in a lot better shape than they had started it, when much of the industry in the Northeast was in a state of financial collapse and when doomsayers could see the rest of the industry following in fairly short order. Perhaps it took crisis to provoke action—by the industry and, most important, by government—but action did come. Result: While the industry is still troubled by what the AAR calls the "competitive equity" factor, it's starting the new decade on a positive note, in good part because of 1980's regulatory reform.

Traffic/service

Given the fact that the nation's economy was in recession for much of the year, rail traffic in the overall held up well. Despite reductions in carloadings in 18 of 21 commodity categories and a drop of about 5.4% in total loadings, transportation output as measured by ton-miles stayed about even with the 913-billion-plus record set in 1979. Among the factors at work: Ton-mile gains recorded in the first quarter of '80 worked to offset decreases

Freight and passenger traffic 1968-1980

Year	Revenue carloadings (thousands)	Piggyback carloadings (thousands)	Revenue ton-miles (millions)	Revenue passenger-miles (millions)
1969	28,237	1,540	e767,841	e12,159
1970	27,160	1,450	764,809	10,740
1971	25,266	1,356	729,743	8,833
1972	26,105	1,448	776,746	8,558
1973	27,338	1,631	851,809	9,295
1974	26,184	1,610	850,961	10,333
1975	23,218	1,308	754,252	9,934
1976	23,457	1,506	794,059	10,304
1977	23,173	1,689	826,292	10,293
1978	23,355	1,841	858,105	10,222
1979	23,877	1,858	913,669	11,306
1980	22,598	1,660	e914,600	e10,700

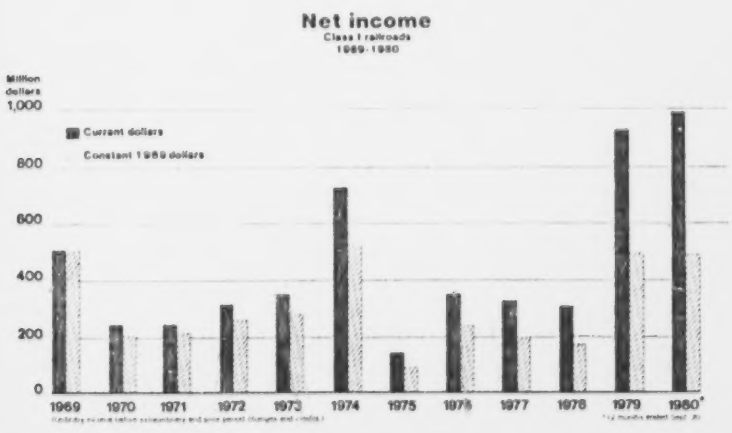
e Estimated

Note: Piggyback carloadings shown above include mail and express. Revenue passenger-miles include National Railroad Passenger Corp. (Amtrak) beginning with year 1971 and Auto-Train Corp. for years 1972-77.

Operating revenues 1969, 1979, 1980

	1969 (millions)	1979 (millions)	12 mos. to 9/30/80 (millions)
Freight	$10,551	$23,447	$25,581
Passenger	439	382	423
All other	460	1,390	1,455
Total	11,450	25,219	27,459

Note: Mail and express included in freight revenue.



that came later; and carloadings increases were posted for both grain (better than 10%) and coal (close to 9%), with much of this traffic moving by unit train over long distances. The only other commodity category to show an increase was farm-products-other-than-grain, and here the deregulation of rail movement of perishables (put in place by the ICC in 1979 and expanded in '80) played a big part: For the first 12 months after dereg, volume went up by about 26% and rail market-share jumped by a couple of percentage points.

As for intermodal operations, at first glance 1980 shaped up as a bad year, with trailer/container loadings off by almost 9%. A second look, however, put '80 in a different perspective: In the recession of 1975, TOFC/COFC dropped not by 9% but by 20%, and Plan 3 piggyback actually went up last year by 16% (reflecting strength in rail/water bridge traffic and in movement of perishables).

With only a few scattered exceptions, freight-car supply was no problem during 1980. ICC, meanwhile, took several significant actions in areas related to car supply and utilization, actions which gave the industry more control over its own practices in such matters as car-hire and enforcement of car-service rules.

Freight rates

Shippers were charged more last year for movement of their freight, with the ICC approving rate increases totaling 10.3%. This compared with somewhat greater increases in some of the indices railroads had to contend with, increases of more than a 10.3 in fuel and material prices. Revenue per ton-mile, 2.718 cents in 1979, rose to 2.830 cents in 1980.

Financial results

With increases in revenues slightly outpacing increases in expenses, railroads were expecting final figures on 1980 to show a modest improvement in net railway operating income, ordinary income and rate-of-return. Projections indicated that total operating revenues would come in at about $28.3 billion, up by 12.1% from 1979 levels, with total operating expenses climbing by 11.1% to about $26.6 billion. On the revenue side, increases in coal and grain traffic helped, as did prompt ICC action on rate increases; on the expense side, railroads were looking at year-to-year increases of 49% in fuel costs, of more than 11% in the cost of other materials, and of 9% in wage costs (including supplements). For the first nine months, rate-of-return on net investment stood at 3.17%, up from 2.64% for the same period in 1979.

Capital expenditures

Spending for capital improvements to railroad equipment and plant continued to climb last year, with total expenditures by railroads and others expected to hit $6.2 billion. Of this, about $3.68 billion was invested by Class I railroads, with slightly more than $1 billion going for improvements to fixed plant and the rest spent for rolling stock. Equipment expenditures resulted in deliveries of about 90,000 freight cars and 1,700 locomotive units during the year, and these deliveries translated into net increases (after retirements) in the freight-car and locomotive fleets for the second straight year.

Management/labor

Conflict was the exception rather than the rule in 1980 in rail management/labor relations, in that last full year of a contract agreement that's subject to change April 1. In individual negotiations, railroads continued to work on crew-consist, with some success. At the same time, cooperative efforts were being made to develop better ways of handling Rule G, with emphasis on prevention of alcohol and drug abuse, on employee involvement in enforcement, and on provision of a "second chance" for offenders under certain circumstances.

Within labor, meanwhile, there was both a coming-together and a falling-apart. The Brotherhood of Railway and Airline Clerks absorbed the Supervisors organization, which became a division of BRAC. But the Railway Employes' Department, which had been going on for some time without the Machinists and the Sheet Metal Workers, lost the Carmen; then RED, reduced to three relatively small unions, closed up shop. For its part, the Carmen's union, fighting to organize the many private car-repair shops that have sprung up, opened a second front, serving notices aimed at a tightening-up of contracting-out of work.

As 1980 wound down, one major union, BRAC, circulated a working-paper dealing with possible bargaining approaches for 1981. Among other things, it suggested an indexing of wage increases, inclusion of a standard-of-living improvement factor and a catch-up on wages allegedly lost to inflation during the life of the existing agreement because of the cap placed on cost-of-living adjustments. The first notices actually served, however, came on Jan. 2 from the Brotherhood of Railroad Signalmen; they included demands for a c-o-l catch-up and for wage increases in three steps which would compound to more than 53%.

As for labor's position and its strength

Railroad cost of capital

	1978 Ex Parte No. 353	1980 Ex Parte No. 381
1. Embedded cost of debt	7.0%	7.8%
2. Current cost of debt	8.4	10.0
3. Current cost of equity	14.0	13.5
4. Cost of capital as measured by rate of return on net investment base	12.5	11.22

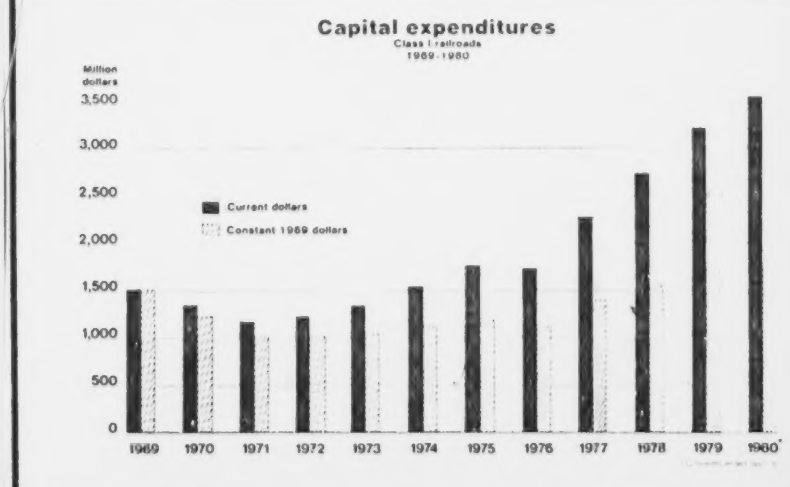
Source: ICC decisions

Rate of return on net investment and net income 1969-1980

Year	Net railway operating income *a* (millions)	Rate of return on investment after depreciation *a* (millions)	Net income after fixed charges *b* (millions)	Net income in constant 1969 dollars (millions)
1969	$655	2.36%	$514	$514
1970	486	1.73	227	216
1971	595	2.12	247	223
1972	654	2.34	319	277
1973	650	2.33	359	294
1974	768	2.70	730	545
1975	351	1.20	144	98
1976	452	1.60	355	231
1977	343	1.24	326	200
1978	427	1.52	307	175
1979	837	2.87	938	491
12 mos. to 9/30/80	946	3.17	996	488

a After provision for deferred taxes beginning in 1971
b After provisions for deferred taxes beginning in 1971 and including equity in undistributed earnings of affiliated companies beginning in 1974

Note: Statistics shown above and elsewhere in the tables are for Class I line-haul railroads, excluding National Railroad Passenger Corp. (AMTRAK) and Auto-Train Corp., unless otherwise indicated



politically, last November's elections were bound to bring some reassessment in light of the Republican takeover of the Presidency and the Senate and in light of the retirement or defeat of a number of labor's good friends in both houses of Congress. At the very least, observers noted that if 1981 negotiations reached a sticking point and emergency boards resulted, those boards would be created and their members appointed by a conservative President (albeit one who had himself served as a union leader). Sources in labor, meanwhile, tended to discount forecasts of loss of influence, noting that labor's support had by no means gone entirely to the party and the people turned out of office.

Conrail

Conrail's plant and equipment were in better shape in 1980, and one of the industry's most-respected figures was set to come on board as chairman (L. Stanley Crane, late of Southern). But fish-or-cut-bait time appeared to be nearing as losses continued to be large. USRA began major studies of CR's outlook, and in a preliminary report issued in December the overseeing agency was not optimistic: Even if certain cutbacks can be made, USRA found, substantial additional federal aid may be required through 1985. The amounts of that possible additional aid: $1.5 billion to $2.1 billion. For a report due early in 1981, USRA said it would be looking at the actual rail-service needs of CR territory and at whether CR should provide them. Conrail itself had indicated earlier that it would require more help, in a range that went from somewhat lower than the USRA estimate to much higher.

Competitive transportation

Before rail deregulation, there was motor-carrier deregulation, and the fallout from this legislation has yet to be fully assessed. Based upon a half-year's experience, however, it seemed to point to creation of more problems for the truckers themselves than for their competitors.

On a couple of other fronts:

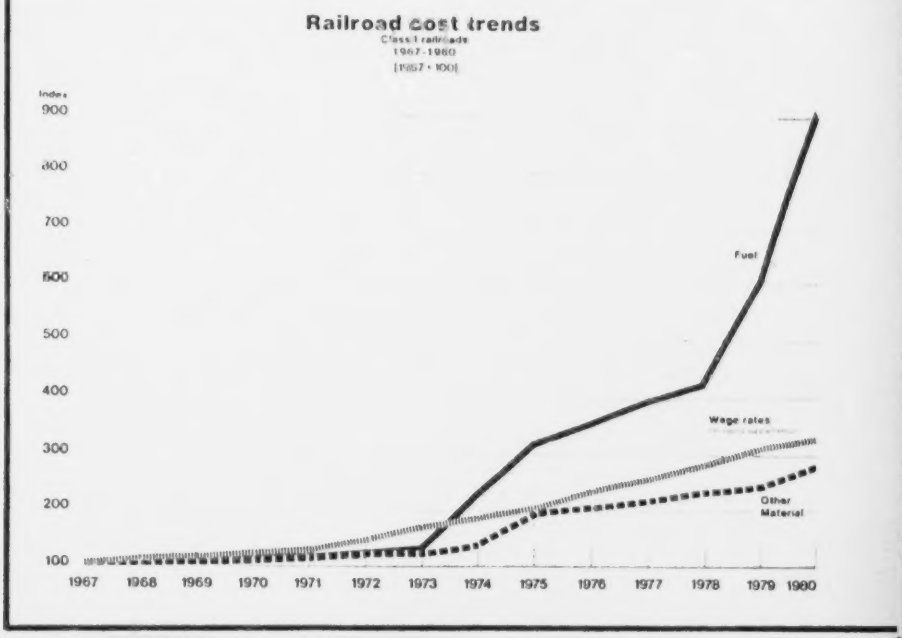
—Work began, late in 1980, at Alton, Ill., on a new Mississippi River facility downriver from Locks and Dam 26. Railroads and environmentalists had thus lost a long battle against the Corps of Engineers' project; yet to be decided was the fate of an add-on (a second lock) which waterways interests wanted. Meanwhile, work continued on a second waterways project opposed by railroad interests, the Tennessee-Tombigbee.

—Eminent-domain legislation for coal-slurry pipelines again failed to get through Congress, but it was there and it will be there again in 1981. •

Prices and revenue averages — 1967-1980

Year	Consumer price index (1967 = 100)	Producer price index for railroad equipment (1967 = 100)	Revenue per ton-mile (cents)	Revenue per passenger-mile (cents)
1967	100.0	100.0	1.269	3.195
1968	104.2	103.1	1.310	3.389
1969	109.8	108.8	1.347	3.608
1970	116.3	115.1	1.428	3.914
1971	121.3	121.1	1.593	4.306
1972	125.3	128.7	1.618	4.747
1973	133.1	134.7	1.617	4.756
1974	147.7	163.8	1.853	5.207
1975	161.2	201.2	2.041	5.396
1976	170.5	216.7	2.191	5.744
1977	181.5	233.5	2.286	5.916
1978	195.3	252.7	2.462	5.968
1979	217.7	277.3	2.718	6.270
1980 est.	247.0	312.0	2.830	6.915

Note: Revenue per passenger-mile figures include Amtrak statistics beginning with 1971 and include Auto-Train for years 1972-77



Deregulation

It was a cliffhanger all the way—but on Oct. 14, President Carter signed the Staggers Rail Act of 1980, and deregulation came to the railroads. It was not, as the AAR pointed out, "wholesale" deregulation, but it did substantially ease the regulatory burden on the industry.

In the rate-making area, these were among the major provisions of the legislation:

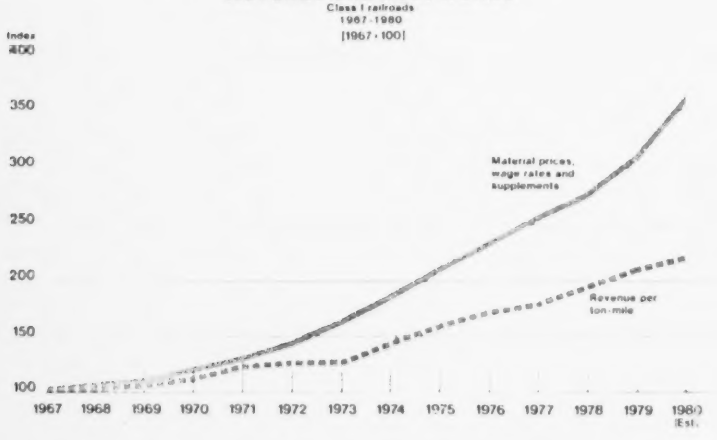
—Close to two-thirds of all rates will be free of ICC maximum-rate regulation. ICC jurisdiction will be limited to rates

Condensed income account 1969, 1979, 1980

	1969 (millions)	1979 (millions)	12 mos. to 9/30/80 (millions)
Total operating revenues	$11,450	$25,219	$27,459
Total operating expenses[1]	10,747	23,994	25,998
Income taxes on ordinary income[2]	106	199	233
Provision for deferred taxes	—	211	308
Net railway operating income	655	837	946
Net ordinary income	514	938	996
Net income in constant 1969 dollars	514	491	488

Note: Data based on the new Uniform System of Accounts (U.S.O.A.), effective Jan. 1, 1978.
1. Operating expenses include rents and taxes other than income taxes.
2. Data for 1979 and 1980 include a small amount of state taxes.

Revenue and cost trends



Trend in railroad fuel prices[a]

(cents per gallon)

Year	U.S.	East	South	West
1969	9.58	9.84	10.44	9.23
1970	9.92	10.13	10.62	9.68
1971	10.29	10.70	10.98	9.92
1972	10.52	10.92	11.27	10.14
1973	12.26	12.74	12.94	11.84
1974	24.43	25.19	25.06	24.01
1975	28.91	30.05	29.75	28.09
1976	31.44	32.55	32.31	30.67
1977	34.99	36.81	36.18	33.77
1978	36.54	38.48	37.50	35.36
1979 (Dec. 3)	72.68	72.18	70.05	73.69
1980 (Dec. 1)	87.04	87.95	87.57	86.51

[a]Yearly averages based on AAR Fuel Index except that 1979 and 1980 prices are based on Ex Parte No. 311 questionnaire responses from all Class I railroads.

where railroads have market dominance and make charges above a threshold level set at 160% of variable costs; that threshold will rise five percentage points a year until 1984; then, it will depend on a cost-recovery percentage to be determined by the Commission, one that can vary between 170% and 180% of variable costs.

—A railroad will be able to raise any rate by the percentage increase in the rail cost index; for the first four years, rates can be boosted by up to 6% a year above the cost recovery index (to a cumulative maximum of 18%), and after that increases will be limited to 4% and, for the most part, to carriers not earning adequate revenues. Provision is made for rate protests, but ICC's powers are restricted.

—Rate reductions will be more easily made. Under the new law, any rate that contributes to the going concern value (defined as a rate that meets or exceeds variable cost) will be regarded as reasonable.

—General rate increases will be limited to joint rates, with elimination scheduled by Jan. 1, 1984, unless ICC finds that this would not be feasible; general increases are to be limited to amounts needed to recover on inflation costs.

—Rate bureaus will not be allowed to discuss or vote on single-line rates, and discussion/voting on joint-line rates will be limited to carriers that can "practicably participate" in the movement. By Jan. 1, 1984, discussion of joint-line rates must be limited to roads forming part of a particular route.

—A complicated formula for application (and cancellation) of surcharges will be in effect for the next three years, basically providing that a carrier may apply a surcharge to any joint rate that fails to yield it 110% of variable cost.

—Contract rate agreements, which ICC had been permitting, were specifically made legal.

—The time frame for suspension and investigation of a rate is reduced; in order to get a suspension, a shipper will have to demonstrate likelihood that it will win on the merits of its case, that it will suffer substantial injury through application of the rate, and that a refund would not be adequate protection.

On matters related to car-service, ICC orders will be restricted to emergency situations with national or regional significance, while the Commission's power to require joint use of terminals during emergencies will be expanded. The legislation also provides that premium charges may be levied for special services to improve car utilization; it eliminates incentive per diem; and it authorizes shippers to try to reach agreement among themselves on private-car compensation and then to

Annual rates of inflation 1979-1980

(1967 = 100)

Month	Producer price index	Consumer price index	Spot price index of railroad material prices and fuel
1979			
January	220.8	204.7	296.3
February	224.1	207.1	—
March	226.7	209.3	—
April	230.0	211.8	316.9
May	232.0	214.3	—
June	233.5	216.9	—
July	236.9	219.4	367.3
August	238.3	221.5	—
September	242.0	223.7	—
October	245.6	225.6	404.7
November	247.2	227.6	—
December	249.7	230.0	—
1980			
January	254.9	233.3	430.9
February	260.2	236.5	—
March	261.9	239.9	—
April	262.8	242.6	457.6
May	264.2	245.1	—
June	265.6	247.8	—
July	270.4	248.0	468.8
August	273.1	249.6	—
September	274.1	251.9	—
October	277.0	254.1	470.8
Annualized rate of inflation 10/79 - 10/80	12.8%	12.6%	16.3%

Employees and their compensation 1968-1980

Year	Number of employees *1*	Number of employees *2*	Total payroll (100s) *2*	Average annual earnings per employee *1*	Average Hourly rate *2*	straight-time Hourly earnings *2*
1968	—	590,536	$5,110,636	$ 8,654	$3.47	$3.74
1969	—	578,227	5,362,754	9,274	3.70	4.00
1970	—	566,282	5,711,280*	10,086*	4.05*	4.35*
1971	544,497	544,333	5,999,968*	11,023*	4.52*	4.84*
1972	527,235	526,061	6,424,920	12,213	4.94	5.32
1973	524,422	520,153	7,083,338	13,627	5.43	5.83
1974	533,277	525,177	7,475,834	14,235	5.72	6.16
1975	494,348	487,769	7,474,000*	15,324*	6.30*	6.77*
1976	496,491	482,882	8,278,400	17,144	6.96	7.49
1977	501,389	482,731	8,939,400	18,518	7.51	8.15
1978	491,254	471,519	9,700,600	20,573	8.25	8.85
1979	502,802	482,789	10,903,887	22,474	9.02	9.66
1980 est.	482,300	460,900	11,430,300	24,800	9.96	10.67

* Adjusted to include retroactive increases.

1 Includes Amtrak beginning in 1971 and Auto-Train for years 1972-77.

2 Excludes Amtrak and Auto-Train.

negotiate with the carriers, with ICC serving as the court-of-last-resort.

On abandonment proceedings, Congress left the standards as-is, but changed the time frames in order to speed things up. Mechanisms were also put in place for subsidy/purchase of to-be-abandoned lines.

Conrail was affected by several provisions. Under one, the 4R Act redeemable preference share program will be continued for two years with an additional $700 million authorized, $200 million of which is earmarked for a reduction in the labor force of CR; under another, new reports and recommendations must be prepared by both USRA and CR with respect to funding requirements and alternatives, and CR must develop reports on alternatives to current labor agreements and on potential savings from the 1980 Act, from possible property transfers and abandonments and from other sources. In the meantime, an additional $329 million in government investment was made available.

Perhaps most controversial were two other provisions of the new law, provisions vigorously protested by Burlington Northern. In one, a cap (lasting until well into 1987) was placed on rail coal rates to San Antonio; under the other, DOT was ordered to take final action on Chicago & North Western's loan-guarantee application, covering Powder River Basin line construction and rehabilitation costs, within 75 days after the issuance of a final environmental impact statement.

Reorganization

For Rock Island, 1980 was a time for disposal—disposal of its Golden State route and of freight cars and motive power, but as the year ended other roads were continuing to operate major segements of RI lines without having been able to work out purchase agreements. Milwaukee Road, meanwhile, was able to work out sale of a number of sections of railroad and other properties; and it was hard at work toward reorganization as a "Milwaukee II" midwestern system which it believed could be made to work as a viable entity, one that might later be acquired by another road. Late in the year, the ICC, which had been less than sanguine before, came up with more-positive findings based on Milwaukee's being able to reduce labor and equipment costs; Milwaukee was working toward both of those goals. And then there was Boston & Maine, in bankruptcy proceedings during all of the 1970s; late in '80, B&M filed its third proposed reorganization plan.

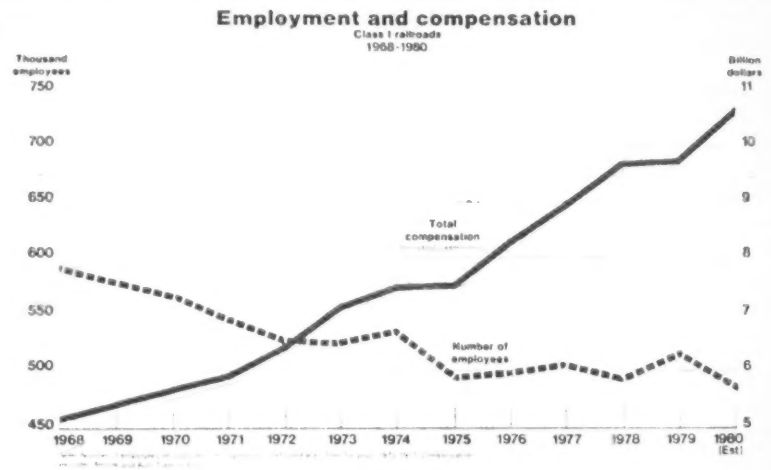
Merger/consolidation

You would have to go back a long time to find a year in which there was more movement than in 1980 in terms of putting new railroad systems together. Grand Trunk Western completed its purchase of Detroit, Toledo & Ironton. Burlington Northern brought Frisco into the fold. Chessie System and Seaboard Coast Line Industries merged to create CSX Corp. Southern Pacific acquired the Rock Island line between Santa Rosa, N.M., and St. Louis via Kansas City. Union Pacific and Missouri Pacific filed application with the ICC for a merger which would include acquisition of Western Pacific. Southern and the NW, which had fired-and-fallen-back on merger once before, reached agreement the second time around. Sizable pieces of bankrupt Milwaukee Road were sold off, especially in the Northwest, and there was no lack of interest on the part of railroads, shippers and shipper groups and state agencies in acquiring parts of both Milwaukee and RI. Santa Fe and Southern Pacific, meanwhile, talked abut merger but failed to come to agreement.

For the most part, railroads appeared ready for this new wave of consolidation and even rail labor mounted only token opposition. Katy, joined by others including labor, did succeed in delaying the BN/Frisco merger in the courts, but eventually the Commission's pro-merger decision was upheld. Labor sought ICC reconsideration of the Chessie/Seaboard merger, but its request was rejected and CSX came into being. SP however, made its move before rather than after the fact, beginning a court challenge to the UP/MP/WP consolidation.

For its part, the Commission was moving expeditiously on merger proposals (even more rapidly in an instance or two than the 4R Act required) and it was not enthusiastic about imposing restrictive conditions. But with the growth of this new merger movement, the ICC did warn that it would not be a rubber-stamp for every merger the industry could come up with.

The year was not without its odd moments. SP, for example, found it advisable to say that it was studying a merger; but it didn't identify its prospective partner, and it was left for hastily-called press conferences to make it known that Santa Fe was the other party. And then there was BN/Frisco. The U.S. Court of Appeals in New Orleans lifted a stay order which had blocked merger and the merger documents were almost immediately filed. Then one Supreme Court justice, apparently unaware of the filing, entered his own stay order: BN and Frisco were



New and rebuilt equipment installed 1969-1980

Year	Freight cars	Passenger-trains cars	Diesel-electric units
1969	75,661	265	1,241
1970	75,136	318	1,093
1971	60,633	281	1,276
1972	49,983	347	1,577
1973	59,170	92	1,339
1974	67,409	100	1,282
1975	73,992	272	810
1976	53,630	358	568
1977	53,817	158	996
1978	70,458	44	1,443
1979	90,717	116	2,007
1980 est.	90,000	n.a.	1,900

n.a. Not available
Note: Freight-car installations include cars of all railroads and private car lines. Passenger-train car and diesel-electric unit installations include Amtrak and Auto-Train for the years 1972-1977.

Railway current ratio

Dec. 31	Current assets (millions)	Current liabilities (millions)	Current ratio
1969	$3,378.6	$3,563.4	0.9
1970	3,582.5	3,523.9	1.0
1971	3,585.9	3,647.8	1.0
1972	3,611.6	3,672.3	1.0
1973	4,055.9	3,898.0	1.0
1974	4,553.2	4,333.7	1.1
1975	4,487.8	4,457.1	1.0
1976	5,181.2	4,907.5	1.1
1977	5,830.1	5,338.9	1.1
1978	6,791.3	6,226.2	1.1
1979	7,734.8	7,169.5	1.1
9/30/80	7,994.7	7,325.3	1.1

Note: For the years 1969-74, data are based on the consist of Class I railroads for each respective year; beginning with 1975, statistics are based on the 1979 Class I consist excluding the Long Island Rail Road.

Index of wage rates and material prices 1967-1980

(Average 1967 = 100)

Year	Wage index	Wage sales and supplements	Fuel	Other material	Total material	Index of wage rates and prices	Wage rates and prices including supplements
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968	105.1	106.3	103.5	102.6	102.7	104.7	105.7
1969	112.2	113.6	106.7	105.5	105.8	110.9	112.3
1970	122.7*	125.6*	110.5	109.4	109.7	120.2*	123.0*
1971	136.8*	139.4*	114.6	113.5	113.7	131.2*	133.7*
1972	149.5	153.4	117.1	118.7	118.1	141.8	145.6
1973	164.4	173.9	136.5	122.9	126.7	155.2	163.5
1974	173.4	189.1	272.0	142.1	178.9	174.7	186.8
1975	190.8*	207.1*	321.9	190.2	227.2	202.2*	212.6*
1976	210.7	232.0	350.1	203.2	244.5	221.3	235.4
1977	227.3	251.6	389.6	217.2	265.3	239.2	255.4
1978	250.0	276.5	406.9	230.6	279.9	259.4	277.4
1979	273.2	303.9	606.4	252.5	347.8	296.5	315.9
1980 (prel.)	301.6	331.4	905.7	291.4	454.3	349.4	365.2

*Reflects inclusion of retroactive wage increases

Inventory of equipment 1969-1980

December 31	Freight cars*	Passenger cars (incl. Pullman)	Head-end passenger-train cars	Diesel locomotive units	Other locomotive units
1969	1,791,736	8,343	4,083	26,714	319
1970	1,784,181	7,953	3,224	26,796	290
1971	1,762,135	6,804	1,909	26,897	292
1972	1,716,937	6,541	1,048	27,070	294
1973	1,710,659	6,270	919	27,550	250
1974	1,720,573	6,077	771	27,857	227
1975	1,723,605	5,834	637	27,985	225
1976	1,699,027	4,879	599	27,380	229
1977	1,666,533	4,907	605	27,450	217
1978	1,652,774	3,979	514	27,241	211
1979	1,700,310	3,820	421	27,275	175
1980 est.	1,710,000	n.a.	n.a.	27,300	170

*All cars, railroad and private.
n.a. Not available.

Note: Figures shown for passenger equipment include National Railroad Passenger Corp. (Amtrak) beginning with 1971. Number of locomotives shown includes Amtrak beginning with 1972 and Auto-Train Corp. for years 1972-77. Beginning with the year 1972, the number of freight cars is based on a revised series. (TRAIN).

merged—or were they? Some degree of uncertainty lasted for not hours but a few days before the full court dissolved the justice's order and the merger was, for-sure, a merger.

Technology

By two key standards—what was under development and what made it to the marketplace—1980 was a high-tech year for the railroad industry. In the freight-car field, development and testing of new truck designs continued with no letup, while several carbuilders began taking new looks at various materials other than steel for car construction; because of its light weight, long life and high residual value and despite its high initial cost, aluminum seemed poised for a comeback. Use of non-metallic materials was also getting some attention. In the motive power area, U.S. and Canadian builders were all out with new designs, in production or prototype models, all of these changes aimed at improving fuel efficiency, reliability and adhesion ratings. On the engineering side, suppliers continued to work on improved fastening systems and on new gains in the efficiency and reliability of track machines.

Intermodal systems, meanwhile, continued to have a fascination for R&D people, with about a dozen companies involved in design and/or testing of new intermodal vehicles. Among the major developments: The dual-mode RoadRailer made its debut in regular revenue service along the Eastern Seaboard; Budd tested an articulated, trailer/container well car between the East Coast and Chicago; Trailer Train continued to refine an articulated design which uses two-wheel trucks; and Santa Fe moved closer to construction of a container version of its articulated Ten-Pack trailer system.

Passenger service

For Amtrak, 1980 was a year of mixed blessings. Its Northeast Corridor improvement program was putting a high-speed line in place between Washington and Boston, new equipment was going into service to cut maintenance costs and make passengers happier, and there were more passengers to share in that happiness. Along with DOT, Amtrak looked at routes and came up with 13 deemed worthy of further study as potential high-density, high-speed corridors.

On the other hand, despite ridership increases, losses continued to be heavy, and there were indications that the incoming Administration might well regard Amtrak as a ready-made target for budget-cutters, despite the fuel-efficiencies which a well-patronized passenger train can demonstrate. One factor to consider here: Amtrak is a nationwide network, but of the total number of passengers served each year, the Northeast Corridor alone accounts for about one-half.

As for Auto-Train, it filed in September for reorganization under federal bankruptcy laws.

Various states supporting intrastate passenger services, meanwhile, seemed to regard them as worthwhile despite losses being incurred, and there was even consideration being given in a couple (notably Ohio and California) to creation of new high-speed corridor lines.

"High speed" in 1980, however, continued to be synonymous with what was happening on Amtrak's Northeast Corridor Improvement Project, and so far as

Capital expenditures and retained funds 1969-1980

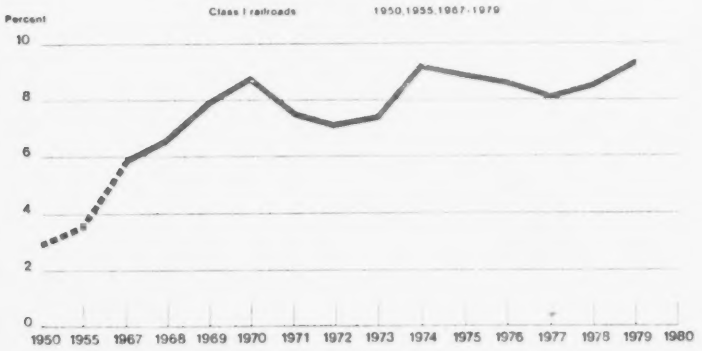
Year	Gross capital expenditures: Rolling stock (millions)	Other facilities (millions)	Total (millions)	Retained funds* (millions)	Excess of capital expenditures over retained funds (millions)
1969	$1,089	$ 421	$1,509	$ 816	$ 694
1970	993	358	1,351	618	733
1971	864	314	1,178	784	394
1972	848	368	1,216	923	293
1973	893	449	1,342	964	378
1974	1,038	527	1,565	1,091	475
1975	1,303	486	1,790	622	1,168
1976	1,175	550	1,725	683	1,042
1977	1,540	751	2,291	763	1,527
1978	1,883	855	2,738	727	2,011
1979	2,285	1,039	3,323	1,390	1,933
12 mos. to 9/30/80	2,499	1,064	3,563	1,666e	1,897e

*Retained funds represent income before extraordinary items, plus deferred taxes and depreciation and retirement charges, less cash dividends and equity in undistributed earnings of affiliated companies.

Note: Capital expenditures of Class I railroads do not include expenditures for railroad equipment made by private car companies and lessors.

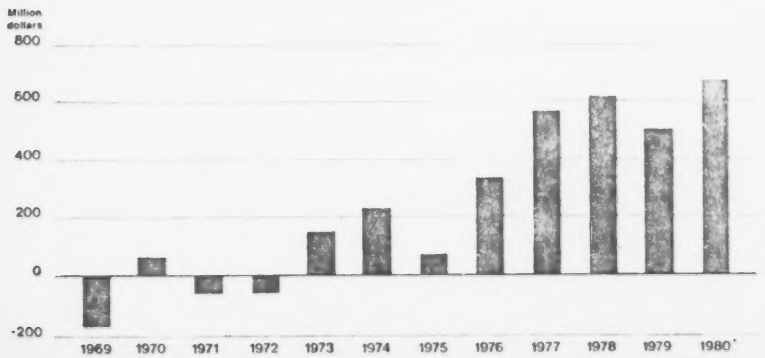
e – Estimated

Average interest rates on equipment obligations issued



Net working Capital

Class I railroads
1969-1980



track rehabilitation was concerned, many of the numbers were impressive. All major elements of rehab were at 50% of completion or better—with concrete-tie track-laying at 57%, ballast undercutting at 55%, and ballast cleaning at 62%—while such items as wood-tie replacements, laying of continuous welded rail and rail-joint elimination were in the 90% range.

Two so-called "section improvement" packages (intended to put segments of the line into configuration as parts of the high-speed route) were in effect, with contracting for eight additional packages scheduled for 1981.

Through the 1980 work season, Amtrak's timetable reflected the problems of operating a passenger railroad while trying to rebuild its fixed plant at the same time. One result of this was that "on time" performance figures looked considerably better than they had in the previous year—an average 70.3% on-time operation for fiscal year 1980 versus 60.6% for fiscal 1979. Then came late-October timetable changes, and for the first time Northeast Corridor schedules were shortened, with average cuts of seven minutes from Metroliner schedules, of nine minutes on conventional trains between New York and Washington, and of 10 minutes on Amfleet trains between New York and Boston.

Through an amendment to the 4R Act, Congress added $750 million to the original improvement program, and that was a boost toward actually getting the whole job done by its target date, September 1985—at which time, if not before, Amtrak would be able to drop that old familiar refrain from its NEC timetables: "Amtrak is undertaking major track rehabilitation....Your understanding and patronage are appreciated as we work to bring you a better rail passenger service."

Amtrak's relationship with the railroads that operate its trains was the subject of a report, to the Congress by the General Accounting Office issued early in 1981. GAO recalled that Amtrak's most recent attempt to win legislation to strengthen its bargaining position with the operating carriers came in April 1980, when it submitted proposals that would:

—"Require penalties to be assessed against an operating railroad's base compensation if on-time performance at passenger stations designated by Amtrak fell below 75% before 1982, 80% in the period 1982-84, and 85% beginning in 1985. Amtrak and an operating railroad could contractually agree to alternate standards for performance penalties and could continue to contract for payment

of incentives for high-quality performance.

—"Require the Federal Railroad Administration to carefully survey the current condition of rail lines used in Amtrak service, and authorize the administration to order rail lines restored to the condition of any higher level which may be specified by other legal requirements or by contract.

—"Authorize the Secretary of Transportation to order a railroad to operate additional Amtrak trains on existing or new routes. Compensation for such additional operations would be as provided by existing contracts, or as determined by the ICC under its existing jurisdiction if there were no applicable agreement.

—"Authorize the Secretary of Transportation to review state and local speed restrictions, and to revise or eliminate any such restriction which the secretary determines imposes an unreasonable burden on interstate commerce.

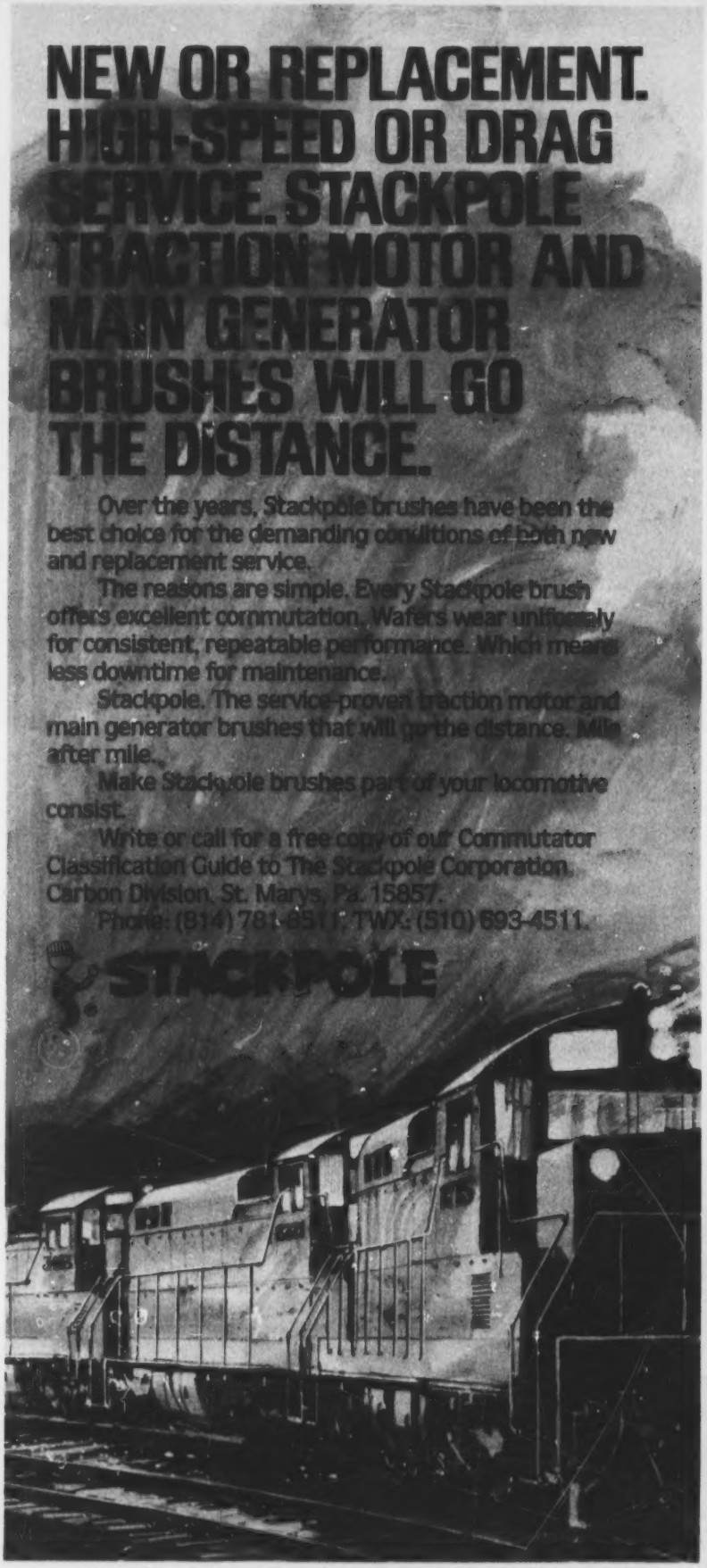
—"Entitle a railroad to receive an additional tax credit equal to 10% of the amount of its expenditures for improvement to its rail lines which Amtrak agrees in advance will significantly benefit Amtrak operations by permitting faster operations or improved reliability."

Nothing, so far, has come of these proposals.

GAO's own recommendation is that Amtrak "try to obtain needed improvements in passenger service contracts with other railroads by taking additional cases to ICC in which Amtrak is unable to obtain railroad agreement on incentives for meeting intermediate point schedules and penalties designed to encourage good performance and cost restraint."

With Amtrak under almost constant attack, some people have the impression that the experiment has been a dismal failure. One reason for this, believes President Alan S. Boyd, is that Amtrak has not been content to enbalm the past. Summing up the railroad's recent history, Boyd commented not long ago:

"We have been able to turn around the generation-long decline in rail passenger ridership, and we have been able to more than double corporate revenues. We have initiated computerized services, improved passenger service, introduced new equipment and rehabilitated the old. We have been able to prove that the government's investment in this industry has been wise, worthwhile, and sound for the long run. At the same time, we all know that we have a very long way to go and that many obstacles line our path. One of the greatest of these obstacles is the common misunderstanding of what rail passenger service ought to be today." ■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Market

CARLOADINGS

Loadings of revenue freight in the week ended Jan. 3 totaled 338,261 cars, according to the Association of American Railroads. This was a decrease of 30,424 cars, or 8.3%, compared with the corresponding week last year. Ton-miles generated by carloadings in the week ended Jan. 3 are estimated at 14.2 billion, a decrease of 3.0% below the corresponding week of 1980.

REVENUE FREIGHT CARLOADINGS

Commodity	Jan. 3 week	Dec. 27 week
Grain	27,541	20,730
Farm products	3,956	3,638
Metallic ores	26,810	22,561
Coal	91,708	72,906
Crushed stone, gravel & sand	7,411	5,377
Nonmetallic minerals	12,432	11,043
Grain mill products	12,176	11,689
Food and kindred products	12,806	10,944
Primary forest products	14,102	8,707
Lumber & wood products (except furniture)	4,934	5,135
Pulp, paper & allied products	16,734	13,179
Chemicals & allied products	27,128	22,121
Petroleum products	5,204	4,272
Stone, clay & glass products	11,876	8,994
Coke	6,033	4,829
Metals & products	14,172	11,160
Motor vehicles & equipment	4,036	10,164
Waste & scrap materials	8,490	7,991
Forwarder & shipping assn. traffic	5,971	6,515
All other carloads	24,596	24,139
LCL traffic	145	142
Total cars loaded	**338,261**	**286,236**
	1981	1980
Estimated revenue ton-miles (billions), 1 week	**14.2**	**14.7**

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended Dec. 27, 1980, totaled 21,525 cars (4.8% below the corresponding 1979 week) and 38,006 trailers or containers (down 2.9% from 1979). Cumulative volume for 1980 is 1,661,110 (down 10.6% from 1979) and 3,014,864 trailers or containers (down 8.0% from 1979).

• *Indian Railways.*—Hindustan Machine Tools, Ltd. of India has awarded an $11.8-million contract to Emhart Corp. of Farmington, Conn., for railroad wheel and axle machinery to be installed in a new Indian Railways shop at Yelahanka, near Bangalore. Emhart's Farrel units in Rochester, N.Y., and Ansonia, Conn., will share responsibility for the contract. Scheduled for completion in 1982, the new shop will be capable of producing 100 assembled wheel and axle sets per shift.

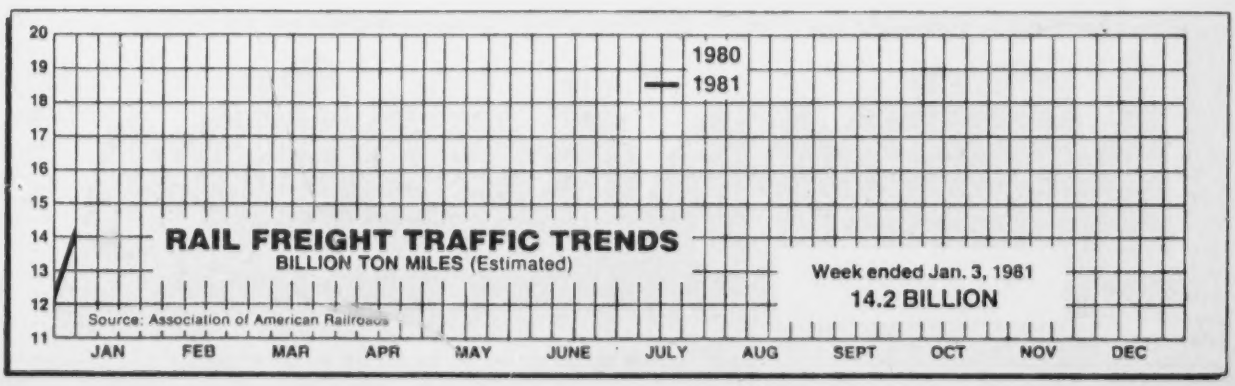
• *Ohio Rail Transportation Authority*—Awarded a $1,199,085 contract to Dalton, Dalton, Newport of Cleveland for preliminary engineering work fo. a 20-mile high-speed rail passenger test track that is to be built between Warren and Ashtabula in northeastern Ohio.

• *Santa Fe.*—Delivery of 16 3,600-hp B36-7 diesel-electric units built by General Electric has now been completed. GE claims that, based on today's diesel fuel prices, the B36-7 offers fuel savings of more than $200,000 over the anticipated life of the locomotive. Contributing to the fuel saving. says GE, are lower engine idle speed, decreased radiator fan horsepower, a modulated dynamic braking system, and an improved turbocharger.

• *CN Rail.*—Will purchase 1.1 million ties from Con-Force Costain Concrete Tie Co. of Edmonton over the next five years, at a cost estimated between $35 million and $40 million. This is an extension of a five-year contract awarded to Con-Force Costain in 1975; that agreement called for 1.5 million ties valued at approximately $40 million.

• *Bangladesh Railways.*—Awarded a $5.1-million contract to Canadian Pacific Consulting Services Ltd. for assistance in strengthening its locomotive maintenance capacity and modernizing its material management system. The five-year project is funded by the Canadian International Development Agency.

• *Irish State Railway (C.I.E.)*—Awarded a $17-million signaling contract to WABCO Westinghouse International Co., an affiliate of Union Switch & Signal. WABCO Westinghouse Ltd. in Trales, Ireland, will furnish components and services for the contract. The contract includes engineering and design of a system to enable C.I.E. to convert from semaphore and manual signaling to a computerized control system by mid-1982. The project involves 20 miles of track, running from Howth, north of Dublin, to Bray in the south. It includes a wayside oriented system with double-direction running. WABCO Westinghouse will provide automatic train control for C.I.E.'s new m-u commuter trains.



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